Amendments to the Drawings

Applicants submit amended Fig. 3 to replace the corresponding figure currently on file. The drawing sheet submitted herewith is labeled "Replacement Sheet" in accordance with 37 C.F.R. § 1.121.

Remarks

Claim Status and Amendments

Claims 1-28 are currently pending in the application. Claims 1-7, 10-13 and 15-27 stand rejected. Claims 8, 9, 14 and 28 are objected to. Applicants hereby amend Claims 1, 4, 8 and 15-28 without any intent of disclaiming equivalents thereof. Applicants also cancel Claims 9 and 14 and add new Claims 29-40. Accordingly, claims 1-8, 10-13 and 15-40 are pending and presented for consideration.

Claim Objection

Claim 4 is amended in accordance with the Examiner's instruction.

Drawings

Fig. 3 is amended to include labels for elements 12 and 13 as to their functions, in accordance with Examiner's instruction. The drawing sheet submitted herewith is labeled "Replacement Sheet" in accordance with 37 C.F.R. § 1.121.

Specification

In response to the Examiner's comments on the specification, Applicants hereby add an abstract of the application as required by 37 C.F.R. 1.72(b). Applicants submit that the abstract includes no new matter.

Rejections Under 35 USC § 102

The Examiner rejected claims 1-4, 7, 15, 16, 18, 20 and 22-27 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,434,509 to Blades ("Blades").

Blades discloses an electric monitoring system comprising an antenna, a data sampling means and a data processing means, where the antenna detects a radio-frequency signal generated by arcing events and provides a diagnostic for monitoring the operation of both mechanical and electrical components of the electric motor. However, Applicants submit that Blades is only capable of determining the presence of arcing events in a motor. Blades does not

teach determination of one or more operational parameters in accordance with the present inventions as defined by amended Claim 1. In fact, Blades teaches only the determination of the presence of a fault by detecting the presence of arcing (col. 23, lines 27–31). Diagnosis in the context of Blades is based on determining the source of the arcing and the severity based on gap sized and/or arc lengths.

In comparison, Applicants amended Claims 1 and 15 relate to determining one or more operational parameters of the electric motor. Support for amendments to Claims 1 and 15 may be located on page 10, lines 3-4, page 20, line 1 - page 22, line 15. Applicants submit that, in the context of the present application, this in fact refers to determination of such factors as speed, load, torque and variations therein, as well as the cause or source of the arcing – not simply the presence of arcing as taught by Blades.

Applicants submit that amended Claims 1 and 15 are patentable over Blades for at least the reasons presented above. Since Claims 2-4 and 7 are dependent on Claim 1, and Claims 16, 18, 20, 22-27 are dependent on Claim 15, Applicants submit that Claims 2-4, 7, 16, 18, 20 and 22-27 are likewise patentable over Blades.

In addition, Applicants submit that newly added claims 29-40 depend from claims 1 and 15, respectively, and recite further limitations thereon. Therefore, Applicants further submit that new claims 29 – 40 are patentable over Blades. In particular, Applicants submit that the additional limitations recited in claims 20-40 are not taught by Blades.

Support for new Claim 29 may be located on page 8, lines 23-24; page 19, line 33 to page 20, line 2; page 20 lines 3-6; and pages 23 lines 9-10. Support for new Claim 30 may be located on page 8, lines 31-32; page 20, lines 25-31; and page 21, lines 1-8. Support for new Claim 31 may be located on page 8, lines 33-34; page 9, line 1; and page 23, lines 18-19. Support for new Claim 32 may be located on page 9, lines 2-3; page 10, lines 9-10; and page 23, lines 18-19. Support for new Claim 33 may be located on page 20, lines 20-23; page 20, lines 29-31; and page 21, lines 4-15. Support for new Claim 34 may be located on page 21, lines 10-19; page 21, line 29 to page 22, line 2; and page 22, lines 4-15. New Claim 35 is supported by canceled

original Claim 9. New Claims 36-40 depending on Claim 15 correspond with new Claims 29-33.

Rejections Under 35 USC § 103

Claims 5 and 6 are rejected under 35 U.S.C. § 103 as being unpatentable over Blades in view of DE003140319A1 to Lindsay *et al.* ("Lindsay"). Claim 17 is rejected under 35 U.S.C. § 103 as being unpatentable over Blades in view of U.S. Patent No. 5,737,026 to Lu *et al.* ("Lu"). Claims 19 and 21 are rejected under 35 U.S.C. § 103 as being unpatentable over Blades in view of U.S. Patent No. 6,701,274 to Eryurek *et al.* ("Eryurek"). Claims 10-13 are rejected under 35 U.S.C. § 103 as being unpatentable over Blades in view of U.S. Patent No. 4,999,641 to Cordery *et al.*

As discussed in detail above, Applicants' amended claim 1 differs from Blades. Amended claim 1 determines one or more operations parameters of the electric motor, such as speed, load and torque, variations therein, as well as the cause or source of the arcing. The claimed invention provides a non-invasive way of determining these parameters. There is no explicit disclosure in Blades that would teach or lead the skilled person to adapt the teaching of Blades to determine one or more operational parameters of the electric motor. Applicants submit that Blades only determines the presence of a fault in an electric motor on the basis of arcing. However, it is known to the skilled person in the art that arcing is always present in electric motors and so the skilled person applying Blades for the intended purpose of the present invention would be led to believe that there was a continuous fault.

Processing the radio-frequency signals generated by the arcing events in accordance with the present application allows the skilled person to use these signals to determine operational parameters, which then has the associated advantage of enabling the skilled person to further determine useful information such as speed, load, and torque, variations therein, as well as the cause or source of the arcing within the motor.

The remaining cited prior art is also silent as to determining operational parameters of the electric motor from the radio-frequency signals generated by arcing events. As such, Applicants submit that amended independent Claims 1 and 15 are patentable over Blades in view of the

other respective cited references. As claims 5, 6, 17, 19 and 21 are dependent on Claim 1 or 15 respectively, Applicants submit that Claims 5, 6, 17, 19 and 21 are further patentable over Blades in view of the other respective cited references.

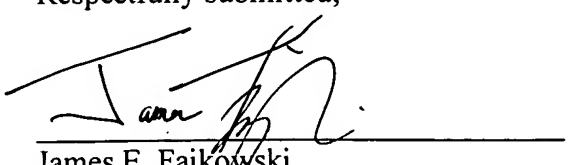
Amended independent Claim 10 incorporates the limitations of canceled Claim 14 such that it should be allowed in accordance with Examiner's comments in the "Allowable Subject Matter" section. In addition, Applicants submit that Claims 11-13 are now allowable because they are dependent on amended Claim 10.

Conclusion

In summary, Applicants submit that there is novelty in amended Claims 1 and 15, and all claims dependent thereon, over the disclosures of the prior art. Furthermore, given the nature of the teachings in Blades, there is insufficient disclosure for a skilled person to take the necessary steps in order to arrive at the novel invention as defined by Claims 1 and 15. The present invention provides a means for determining one or more operational parameters of the electric motor, as detailed above, and implementation of Blades would only indicate the mere presence of a fault. Applicants therefore request favorable reconsideration of this matter, such that the claims may be deemed acceptable for grant.

Applicants respectfully submit that the foregoing arguments overcome the Examiner's rejections and that the pending claims are in condition for allowance. The Examiner is invited to contact Applicants' undersigned representative by telephone at the number listed below to discuss any outstanding issues.

Respectfully submitted,



Date: September 19, 2006
Reg. No. 54,089

James E. Fajkowski
Attorney for Applicant(s)
Kirkpatrick & Lockhart Nicholson
Graham LLP
State Street Financial Center
One Lincoln Street
Boston, Massachusetts 02111-2950

Tel. No.: (617) 261-3189
Fax No.: (617) 261-3175

BOS-1007230 v1